

# CACTUS AND SUCCULENT JOURNAL

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Of America

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FIG. 52. Orchids and Bromeliads growing on a Cephalocereus. MacDougall photo. See pg. 85.



## CACTUS AND SUCCULENT JOURNAL

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## COMING IN FORTY-NINE

The Third Convention of the Cactus & Succulent Society of America, July 3-5, Desert Botanical Garden, Phoenix, Arizona.

## Special Features

A convention in the heart of the giant cactus country. Sessions in the world's foremost desert botanical garden. Thousands of magnificent desert plants growing in a spot of picturesque beauty. Addresses by botanical explorers and prominent students of desert flora. Plant and flower pictures thrown on the screen by masters of the art of color photography. A field trip into the cactus patches of mysterious Superstition Mountain. Longer field trips with experienced guides for those who wish them. A visit to the famous Boyce Thompson Southwestern Arboretum at Superior. Initiation ceremonies of the Ancient Order of Cactus Nuts (Fun session). Choice of lodgings in one of Phoenix' most luxurious auto courts or your own camping equipment set up on the grounds of the Botanical Garden.

## WITHIN A DAY'S AUTO JOURNEY

Painted deserts and the Grand Canyon of Arizona, prehistoric Indian ruins and modern reservations, gigantic mines and sprawling dude ranches, pine forests and bare deserts, Bryce and Zion Canyons, Hoover Dam and Lake Meade, Meteor Crater and petrified forests, Mexico and the Gulf of California with the world's best ocean fishing, White Sands of New Mexico, Palm Springs, Los Angeles and all of Southern California.

## WITHIN TWO DAY'S JOURNEY

Giants among natural bridges, Carlsbad Caverns and the Big Bend of Texas, Colorado's scenic wonders, the Great Salt Lake of Utah, Yosemite Valley, San Francisco and the great redwood trees of California.

## DO THIS NOW

Make your plans to attend. Get your local Society to begin raising a fund to send some one who cannot otherwise attend. Tell me about it.

HOWARD E. GATES, Convention Chairman  
Corona, Calif.

## SOCIETY ACTIVITIES

The Cactus and Succulent Society of America is making rapid strides in staging a come-back after its war-time dormancy. President Brassfield, Mrs. Cariss, and an enthusiastic and loyal Board are making cactus history.

1. An anniversary meeting at the Los Angeles library featured Wm. Hertrich and Proctor's slides. The auditorium was packed.

2. An exhibit of cacti was featured at the Spring Flower Show in Pasadena. The interest in the display set in motion plans for growing show plants on a large scale.

3. Dr. Percy Phillips, a guest of Boyd L. Sloane, gave a talk on South Africa at the lovely home of Dr. and Mrs. Frank Cariss. This was our first contact with one of the South African contributors to the monograph "The Stapelieae."

4. Pres. Emeritus Wm. Taylor Marshall showed a fine collection of Kodachromes at the Pasadena Public Library. The slides showed the progress that he is making in the replanting of the Desert Botanical Garden at Phoenix, Arizona. One of his outstanding pictures was a two-foot plant of *Opuntia glomerata* in full flower; these white flowers are unknown in most collections.

5. Be sure to attend the next meeting of the Society in the exotic garden of Past President, Charles Adams, 440 Arroyo Drive, South Pasadena, Sunday afternoon at 2 p.m., June 13. Harry Johnson will tell about his recent extensive collecting trip in South America.

## TO THE AMATEUR

One more suggestion to amateurs: learn the metric system of measurement and you will derive greater benefit from descriptions. Mr. Hertrich has recommended this system since the JOURNAL's first issue twenty years ago. Because of this magazine's high standing with scientific institutions, we should use the metric system for all scientific articles. The scale on this page will help to familiarize one with the system.



The above scale compares centimeters with inches (approx. 2½ cm. equals 1 in.). 10 mm. equals 1 cm.; 10 cm. equals 1 dm.; 10 dm. equals 1 meter (approx. 39 in.).

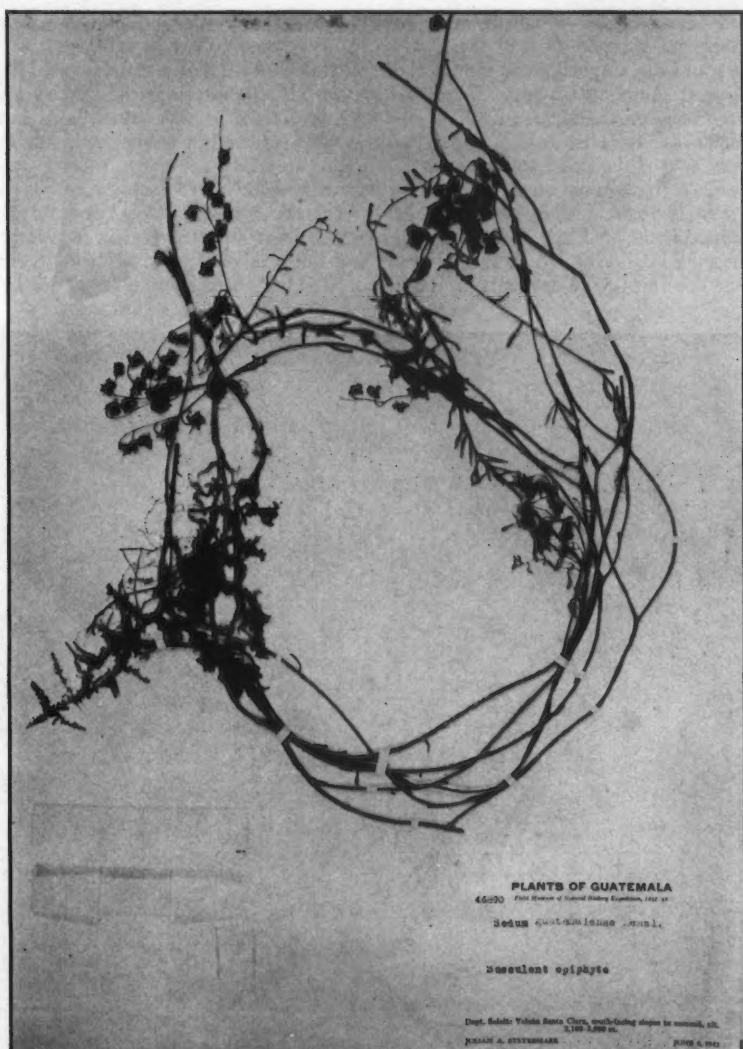


FIG. 53. *Sedum guatemalense* from the Volcan Santa Clara, Dept. of Sololá, Guatemala, J. A. Steyermark's collection no. 46890. Sheet in herbarium of Cornell University. Photo by W. R. Fisher.

## A Name for *Sedum Guatemalense* of Horticulturists

By ROBERT T. CLAUSEN

Few American growers who specialize in *Sedum* are unfamiliar with the species which is the subject of this discussion. For several years, it has been considered to be the *S. guatemalense* of Hemsley. This usage, as far as I am aware, had its origin in 1930 in an article by Eric

Walther in the *Cactus Journal*, vol. 2:455-457. Walther, who has done much to stimulate interest in succulents in general and Crassulaceae in particular, identified a common, yellow-flowered, cultivated *Sedum* with Hemsley's species. At the time, Walther's knowledge of true *S.*

*guatemalense* presumably was confined to Hemsley's original account (Diagn. Pl. Nov. 1:11. 1878) and the ampler description in the *Biologia Centrali-Americana*. Such discrepancies as existed between the plants in cultivation and that described by Hemsley, Walther ascribed to the state of the dried specimens of *S. guatemalense*. A reexamination of these discrepancies now is possible with the advantage of further specimens of *S. guatemalense* collected at the type locality by Dr. P. C. Standley and at other localities in Guatemala by both

Dr. Standley and Dr. J. A. Steyermark. The plants of their collection agree with the original diagnosis and indicate that Hemsley had rather accurately characterized the species from such dried material as was available to him. True *S. guatemalense* is a subshrub, usually epiphytic, with the leaves subterete, varying from gray-green to pale green, sometimes suffused with pink. The stems are finely papillose; the cymes are lax with the flowers on slender pedicels; and the petals are pink. The items questioned in Walther's free translation of Hemsley's de-



FIG. 34. Type plant of *Sedum rubrotinctum* from Charles L. Cass, San Diego, Calif.  
Photo by W. R. Fisher.



scription in *Biologia Centrali-Americana*, vol. 1, pp. 395-396, 1888, are listed below:

*Walther's queries*

leaves few  
leaves subfleshy  
flowers reddish  
cymes lax  
sepals nearly as long as petals

*Condition of plants from Guatemala*

leaves many  
leaves subterete, plane ventrally  
petals pink  
cymes lax  
sepals 3-6 mm. long, petals 4-6 mm. long

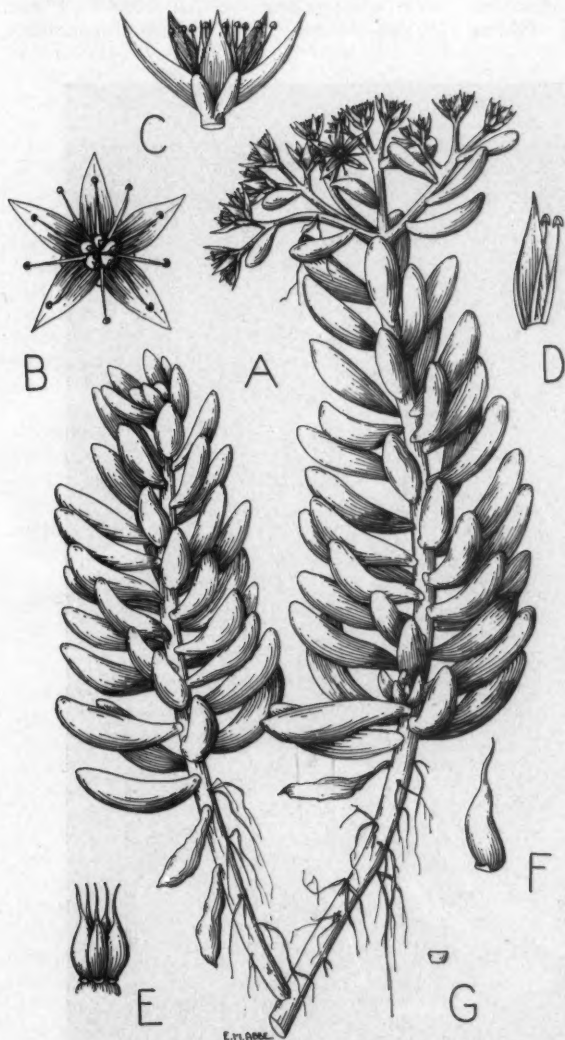


FIG. 55. Drawings prepared by Miss E. M. Abbe of cultivated plant of *Sedum rubrotinctum*. A. Habit sketch (x1). B. Flower from above (x2.5). C. Flower from side (x2.5). D. Petals and two stamens (x3.). E. Pistils (x3.). F. Single pistil (x4.). G. Nectary (x5.).

Except for the number of leaves, the plants from Guatemala check reasonably well with the points in Hemsley's description which Walther had queried. No doubt can exist about the identity of Standley's collections from above Las Calderas, the type locality. *S. guatemalense* is quite different from the cultivated plants with

lustrous, red-tinted leaves, passing under that name, also from *S. australe* which has yellow flowers, tuberculately roughened stems and broader, obovate or oblong-elliptical leaves. A photograph of an authentic specimen from Guatemala, J. A. Steyermark's collection No. 46890 from the Volcan Santa Clara, Dept. of

Sololá, is included to make clear the interpretation of Hemsley's species.

The plants which have erroneously been designated as *S. guatemalense* require some other name. None seems available. For that reason, I suggest a new specific epithet which draws attention to the red-tinted leaves.

*Sedum rubrotinctum* sp. nov. subgeneris *Pachysedum*, sectionis *Fruticisedum*. Plantae

perennes, fruticulosae, glabrae, caulibus decumbentibus, ramosis; caules ad 1.5+ dm. altitudine, saepe radicibus aeriis numerosis; folia spiraliter alterna, densa, clavata, teretia, sessilia, rotundata, lucide viridia, rubrotincta, 4-21 mm. longa, 2-8 mm. lata, 2-7 mm. crassa; cymae terminales fere densae; bractae floriferae oblanceolatae vel ellipticae, 4-7 mm. longae, 1-4 mm. latae; pediculi 1 mm. longi,



FIG. 56. Possible hybrid of *Graptopetalum paraguayense* X ? *Sedum rubrotinctum* from Charles L. Cass, San Diego, Calif. Photo by W. R. Fisher.

pallide virides; flores 5-partiti, raro 6-partiti, 14-15 mm. in diam.; sepala lineare-oblonga ad oblanceolata, obtusa, inaequabilia, 3.6-4.8 mm. longa, 0.8-1.8 mm. lata, pallide viridia, rubrotincta; petala lanceolata, acuta, dupliciter aristata, lutea, 6.6 mm. longa, 2.2 mm. lata; stamina 2-4 mm. longa, filamentis et antheris luteis, filamentis epipetalis 0.4 mm. supra bases petalorum; squamae nectariferae reniformatae, late rotundatae, aethae, 0.4 mm. longae, 0.8 mm. latae; pistilla erecta, uranio-viridia, 5.4 mm. longa. Species floret in Febuario, Martio et Septembri. Typus est planta culta ab Charles L. Cass ad San Diego, California, R. T. Clausen n. C48-9 in herbario Cornell University.

The origin of *S. rubrotinctum* is unknown. Here is a problem to tax the ingenuity of the cleverest and most enthusiastic students of Crassulaceae. Possibly some lucky person eventually will find the species growing in the wild. I would guess that the discovery will be made in the mountains of east-central or southern Mexico. Another possibility concerning the origin of *S. rubrotinctum* also exists, however. It may be a hybrid, either artificial or natural. Until cytogenetical data are available, this possibility must not be overlooked. Meanwhile, gardeners need a name by which they may designate the species regardless of how it may have come into being. That necessity justifies the present discussion and the proposal of a distinctive name. The fascinating task of determining the biological status of the species and tracing its evolution remains, however, as a challenge to stimulate further study.

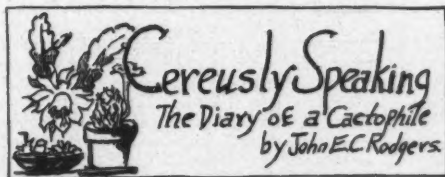
*S. rubrotinctum* rarely flowers in cultivation in the north. In thirteen years at Ithaca, only one of several plants in the greenhouse has produced blossoms. For the flowering specimen which is the type of the species, I am indebted to Mr. Charles L. Cass of San Diego, California. Also, I am grateful to him for specimens which may be hybrids of *Graptopetalum paraguayense* and some species of *Sedum*, possibly *S. rubrotinctum*. The theory that *S. rubrotinctum* may be one of the parents of these putative hybrids gains some support from the yellow color of the petals and particularly from the short, aristate appendages at the tips of the petals, a feature of *S. rubrotinctum*, but not of the *Graptopetalum* or most other species of the section *Frutescedum* of *Sedum*.

Besides the illustrations accompanying this discussion, excellent ones are available in Eric Walther's article in 1930. Walther rendered a great service in discussing the taxonomic status of *S. guatemalense* as he understood it at that time. His conclusions were faulty primarily because he had no true material of the species to

confirm various of Hemsley's statements. All specimens of *S. guatemalense* that I have seen, a total of fourteen collections at the Chicago Natural History Museum, were collected either in or since 1938, that is after the time of Walther's publication. This is good indication of the way new facts are becoming available and how our science grows. Intensive collecting, such as that of Standley and Steyermark, yields much valuable new information. Once authentic specimens of *S. guatemalense* were available for study and comparison with *S. rubrotinctum*, the differences between the two species were manifest. E. J. Alexander, J. A. Steyermark and probably others besides myself, have all realized that the cultivated plants were not *S. guatemalense* and needed some other taxonomic designation.

For the furtherance of my research on *Sedum*, it is again a pleasure to acknowledge the support of the Faculty-Trustee Committee on Research of Cornell University.

Department of Botany  
Cornell University  
Ithaca, New York



The Rebutias are the most difficult plants for me to buy but the easiest ones to keep in good health. Since I do not feel that I am authoritative, because of my previous bias, I shall quote freely from cactophilic literature regarding these favorites of mine—the Rebutias. Britton and Rose, Vol. III, page 45, 1922, wrote, "We know so little of the plants that we are not able to describe them very accurately and have depended upon descriptions and illustrations." In 1941 Marshall and Bock wrote, "Small globose to short cylindrical plants usually having groups of several to many heads; definite ribs are lacking, the areoles surmounting small tubercles; flowers arising from the base or side of the plant are small, red, orange, or yellow and are funnel-shaped; in some species the pistil is enlarged to completely fill the tube and in others it is smaller; ovary bearing small scales which are without content in some species but bear hairs in their axils in other species; fruit small, red, bearing scales which sometimes subtend hairs. The genus intergrades with *Lobivia* and the dividing point is arbitrary." Nineteen years have passed and the authorities disagree. Me, I'm not sticking my neck out either!

Have been able to acquire eight of these charmers over a period of seven years. *Rebutia Fiebrigii* is the largest; globose, 2¼ inches high, spines fine and white, buds appear from the middle of the side; many red flowers, bell-shaped; native of Bolivia at 11,000 feet; blooms best for me in strong light away from direct sunlight; I use well-drained soil.

*R. pseudodominata* is a clustered variety but mine didn't do well grafted on *Cereus peruvianus* so I decapitated and re-rooted it. Budded in April this year. Blooms profusely from small reddish-green onion-set-like buds on sides of plants; the golden yellow flowers are over an inch across. Native to northern Argentina and southern Bolivia. Likes noonday shade but gets sunshine at least six hours a day where I have it. Grows best for me in well drained rich humus soil.

*Rebutia Kupperiana*, a Bolivian jewel, is one of my most consistent bloomers. It is small clustered, reddish green with white spines having brownish tips. Purplish blotch at times below areoles. The red flowers from the side of the plant rise from a white collar of spines. Use rich leafmold and sand with a dash of old plaster.

*Rebutia violaciflora* from Argentina and Bolivia would be my choice if I could not buy any other of this genus. It is one inch in diameter, solitary with no offsets. It grows in a small pot and produces a series of blooms from January to May. It has rose-violet flowers from the base of the plant and even from the areoles under the soil. Fruit is orange-yellow. Sandy loam is best suited to my growing conditions.

*Rebutia elegans* is a clustering, spiralled, tuberculed plant and is never healthy looking with its yellowish green coloring. The white and yellow spines arise from brownish wool. Its blooms, from the sides near the top, are shining canary to nasturtium yellow; the funnel-form flowers are more slender than *F. Fiebrigii*. Grows best for me in rich leafmold and sand.

*Rebutia rubriflora* from Argentina, blooms profusely every two to three years for me. Globose with definite tubercles, bristly spines brownish yellow to white. Flowers red. Backeberg's *Mediolobivia* classification shows how near it is to *Lobivia*.

*R. pseudominuscula* was sold to me as *R. grandiflora*. It is elongated, cylindrical, and more tubercled than *R. minuscula*. Spines are bristly, brownish yellow with a tendency for the new spines to be pinkish. Flowers are red, trumpet-shaped from the lower part of the plant. Likes rich soil, same as the others with the exception that this one likes plenty of lime rubble or old plaster.



FIG. 57. *Rebutia minuscula*.

The plant of the month is *Rebutia minuscula*, so-called from the Latin meaning rather small. It is commonly called The Gem, Little Beauty, and South American Button, by local collectors. It is native to northern Argentina around Tucuman where the Spring starts in September. Because of its small size, the roots are not very numerous although long and branching. Does best for me in a rich humus soil with plenty of drainage material in medium sized pots; a dash of lime or old plaster should be added. It grows vigorously when protected from noonday sun and in partial shade. It blooms the second year from seed if grown well. Starts flowering for me in late winter and finishes in early summer. The flowers are trumpet-shaped and have no fragrance. They are evidently self-fertile because seeds from a single plant produces seedlings true to the parent form.

Branches from the base and up on the sides. It is often found grafted on sturdy *Cereus* seedlings but there is no reason for doing it because it flowers well on its own roots. The cristate form is one of the finest and flowers as well as the normal form.

Have used *R. minuscula* in window garden as well as in greenhouse. Does not require special attention but repays one for any attention given. In fact a collection of all the *Rebutias* and their varieties (try and get them) would take up a very small space and produce clean growth and exquisite flowers. They can be used in rock gardens or in cactus beds but are most pleasing in small pots where they can be examined by cactophiles. I use them to brighten up my collection by scattering them among the *Echinopsis*, *Astrophytum*, and *Cerei*.

In conclusion: in Vol. VIII, No. 9, this JOURNAL, Dr. R. W. Poindexter in his article, "Observations on Frost Resistance" writes, "All *Rebutia* species were hardly so far as observed . . . in regard to actual temperatures, I was negligent and did not keep a record. The season was marked by two distinct freezes. The first was sharp and hard, but observers throughout this region agree that comparatively little actual killing occurred. The second freezing period was prolonged for over a week and it was this which did the real damage . . . water pipes were completely frozen . . . three heavy brass hydrants were burst by ice . . . the ground was frozen three inches deep and remained without any thawing for three consecutive days and nights in shaded places."

What more could be expected of this genus? They are tops the year around. Next month I shall write about *Huernia* with *Huernia Penzigii* as the plant of the month.

JOHN E. C. RODGERS  
1229 8th Street, Lorain, Ohio.

#### TO THE AMATEUR

We are sometimes criticized for not publishing more cultural material. There is practically nothing old or new that has not already appeared in back issues of the JOURNAL or in the two amateur books, "Cacti for the Amateur" and "Succulents for the Amateur."

For instance when you are reading F. R. Long's article on collecting succulents in South Africa, use your reference books and you will find pictures of most of the plants mentioned. It is impractical to keep reprinting pictures that have already been published—we need the space for new material.

For classification of cacti you should refer to "Glossary of Plant Terms," "Cactaceae," and "The Study of Cacti."

SCOTT E. HASELTON.

The following four pages are the fifth installment of the reprinting of *Blühende Kakteen*."





FIG. 58. Succulent members of four families share this limestone ledge. LEFT TO RIGHT: Cactaceae,—*Mammillaria* sp.; Amaryllidaceae,—*Agave* sp.; Orchidaceae,—*Cyrtopodium punctatum*; and Bromeliaceae,—*Hectia* sp.

### WHY NOT ORCHIDS?

*Cyrtopodium punctatum*, an Orchid that "Belongs"

By T. MACDOUGALL

Readers will recall the recent questionnaire of our editor, concerning the desirability of admitting additional plant families to the pages of the JOURNAL.

Now certain families (Cactaceae, Orchidaceae, Begoniaceae, and Bromeliaceae for example) made up, for the most part, of species with the family "written all over them," appeal to the specialist and the collector even though the species may, and do, vary greatly in cultural requirements. On the other hand, when the object is a collection of xerophytic plants, it seems logical that fitness, rather than family connection, should be the criterion. I believe admit-

tance to the JOURNAL, should be on the same basis.

From field observations of associations of xerophytic plants in southern Mexico, I rate Orchids a close second to the Bromels, both in number of species represented and in number of individuals. As an entering wedge for the xerophytic Orchids I offer *Cyrtopodium punctatum*, with photographic evidence to support the claim it is really one of our plants.

In Mexico I find *C. punctatum* growing from 500 to 3,500 ft. altitude, in rocky terrain of limestone formation, usually in locations with full exposure to sun and wind. The strongest



FIG. 59.

*Cyrtopodium punctatum* after one year of succulent culture. Note how flower spikes precede leaf growth. After flowers fade, well fed pseudo-bulbs make noble foliage display and form basis for next season's bloom.

plants grow where the roots can penetrate deep into crevices filled with humus.

In addition to field observations, I have gathered the cultural observations of orchidists.

greenhouse shelf, without water or attention of any kind. Late the next spring it showed approval of such treatment, with a thousand flowers.

In a back number of the "Orchid Review," a contributor referring to finely grown plants of *C. punctatum* in an English collection, pertinently remarks, "they were top-dressed liberally with sheep droppings, through which they were pushing up their roots."

The cultivated plant, illustrated herewith, is the result of one full year of the application of the above observations. Previously, the plant was languishing in an "orchid compost." Then, one spring, it was moved into a porous compost of about equal parts of turfy loam, leaf-soil, coarse sand, plaster rubble, cow manure, and sphagnum moss, and placed outdoors in full sun. After root and leaf growth were well started, water was liberally applied, supplemented later by regular applications of liquid cow manure. During winter the plant stood on a



FIG. 60. LEFT: *Cyrtopodium punctatum* in a succulent setting. RIGHT: An early flowering—induced by unseasonal February rains.



FIG. 61. *Encephalartos Lehmannii* with *Euphorbia Ledienii* in the background. Paardepoot, Jansenville District, C. P.

## COLLECTING SUCCULENTS IN SOUTH AFRICA

By F. R. LONG

### Part II

Our next collecting trip was fixed for the area between Port Elizabeth and the Paardepoot (Horse Pass) on the main road to Graaff Reinet. The pass allows this road to negotiate the Klein Winterhoek Mountains, which form the western portion of the Zuurberg. The Sundays River runs through the same range via a deep gorge to the east of our route. The Klein Winterhoek is an important floral divide in this area.

Our route was Uitenhage, Centilivres, Stembokvlakte, Glenconner and Paardepoot, with the town of Jansenville some 25 miles beyond our camping place. We decided on a good 3 days trip, planning to camp out on the top of the Paardepoot, so loaded a 3-tone truck with bedding, cooking pots and a bell tent. The truck had to bring back a few fully grown clumps of the Cycad, *Encephalartos Lehmannii* for the Government collections at Pretoria, and they are heavy plants. All Cycads are protected, special permits for a definite number had to be obtained from the Provincial (Cape) Administration before removal.

The first 22 miles took us to the town of Uitenhage. The rocky hills where the five spe-

cies of *Euphorbia* were collected as mentioned in article 1\*, soon changed to a deep brown loamy undulating country through much scrub with *Euphorbia Ledienii* Berger, and the imported Prickly-Pear (*Opuntia* sp.) predominating.

Our first treasures were a few plants of *Haworthia piliifera* var. *Stayneri* Poelln., with the tips of the windowed leaves level with the ground. When not in flower, this plant is almost impossible to locate for it grows in isolated ones and twos among grass and other plants. A few miles further on we found the rare *Chamaeloe africana* (Haw.) Berger, in small groups, also among grass. Until found on the Uitenhage aerodrome recently, this plant had been missing for many years. It is easily grown, is the size of *Haworthia attenuata* — found in abundance at the same spot—but has narrow leaves springing from a swollen base above ground. A patch of *Aloe humilis* Mill. was found on the opposite side of the road. Other plants in the scrub were *Delosperma echinatum* (the hedgehog Mesemb.), *Crassula perforata* Thunb., *Aloe africana* Mill., *A. ferox* Mill.

\*Vol. XIX, No. 9, Sept., 1947.



FIG. 62. *Huernia Longii* near Grovenendaal, Uitenhage.

(=supralaevis), *A. striata* Haw., *A. lineata* Haw., *A. pluridens* Haw., and *A. saponaria* Haw. Also seen here were two non-succulent plants, the brilliant *Haemanthus coccineus* Linn., and *Aster fruticosus* Linn.

On the road to the Uitenhage waterworks at Groenendaal, a new *Huernia* was collected by the writer on a former trip, *H. Longii* Pillans. The flowers are of a deep port-wine color covered in deep bristles, an attractive plant easily grown (see illustration).

Passing through the town of Uitenhage and climbing out on the north side, a new *Haemathia*, *H. Browniana* Poelln. (in the fasciata group) was found, and still another just off the main road near the Hot Springs, namely, *H. Armstrongii* Poelln. Rounding a hair-pin, steep decline with slopes gay with *Freesia refracta* Klatt, we came to a large area of typical Addo Bush country, dense in growth of all sorts, brilliant with *Pelargonium*, *Euryops*, *Senecio*, *Osteospermum*, *Rhygozum obovatum* Burch., or "Wild Pomegranate," with its charming canary yellow flowers on the old wood, and of course, the ubiquitous "Spekboom," *Portulacaria afra* Jacq. To diverge a moment, there is a golden leaf form of "Spekboom" growing in the mu-

nicipal park at Port Elizabeth which makes a charming edging, hedge, or specimen shrub, much in the same way as Golden Privet is used.

An Aloe, not found near the coast, began to put in an appearance and soon it was seen in tens of thousands. This was *A. speciosa* Baker, with its large, fleshy, recurved, almost thornless leaves, with purple to greenish white flowers. *A. africana* Mill. was rapidly dropping out. *A. pluridens* Haw., one of the earliest to flower (May) with its brilliant red, candelabra-like heads, was already heavy in seed. *A. pluridens* is tender and will not stand frost and in consequence is not found at any altitude. It grows to a height of 12 to 15 feet. To the specialist in natural Aloe hybrids, this area is indeed a happy hunting ground.

After passing the turn to the mountain road leading to Steytleville, about which more will be said in another article, the scrub was given height by the existence of many clumps of *Euphorbia triangularis* Desf., 20 to 25 feet high. The milk of this species is poisonous and dangerous if splashed into the eye. Many *Ruschias*, *Trichodiademas* and other allied *Mesembryanthema* were evident on all sides, as well as a *Stapeliad*, *S. grandiflora* Mass.

We had to push on if we wished to pitch our camp in the Paardepoot before nightfall, so little attention was given to *Stembokvlakte*, *Kariega*, and *Glenconnor*. After leaving the last named place, the road begins to wind through the hilly Kleinwinter Berg, the bush became more sparse, Aloes predominated, and more *Gasterias*, *G. planifolia* Bak., were seen. We climbed out of the poort and pitched camp on the north side overlooking the flats towards Jansenville. Lovely clumps of that grand Cycad, *Encephalartos Lehmannii* Lehm. with its steel-blue leaves were all around us with *Euphorbia Ledienii* in between. I found a clump of Cycad seedlings massed together, evidently the result of a fallen cone. These seedlings were ultimately tinned up, grown on and distributed to many botanical gardens in America and Europe. A five-year-old seedling will have a stem the shape and size of a tennis ball with 2 or 3 leaves. Such plants should be found in succulent collections, they are exceedingly tough, and can be handed down to succeeding generations. A plant two hundred years old is considered quite a youngster.

Early next morning we set out to "do" the poort. Another Cycad, *Encephalartos longifolius* (Jacq.) Lehm. "Kaffir Bread" or "Broodboom" was found over the rise about one-half mile from the other species. I have never found the two growing together, nor intermediate forms.



We soon came upon clumps of *Haworthia Herrei* Poelln., lying on the surface of well-drained slopes in the part shade of bushes. It is not an upright growing plant and is tolerant of rough treatment.

I next spied a "pilifera" or "translucens" type of *Haworthia* growing on a ledge on the face of the krantz (steep cliff-face) just out of my reach. I called to my companion for assistance and to hold my feet into a tiny niche in the rock. I gave a heave and grabbed hold of a clump of grass and small shrub some 12 feet up, which pulled away in my hand and down we tumbled, coming to rest some 20 feet below; I was still gripping the tuft of grass. I had a look at this and to my amazement, there was what I took to be a piece of *Ceropegia stapeliaeformis*, which is fairly well distributed in these parts, but I was none too sure. I took it along, cut it up into three pieces and potted it up on reaching home. In due course one piece flowered—a new *Stapelia*—this was sent to the Bolus Herbarium, Cape Town. It was named and described *Stapelia Longii* Luckhoff, or the "Rat-tail *Stapelia*," an unusual, procumbent species. These were the only pieces I have ever collected in spite of frequent subsequent search-

es. One day, however, a lady amateur collector brought into my office a basket-full collected within two miles of my spot. This will give readers an idea of the extreme local occurrence of many South African plants.

The poort at this spot was more in the nature of a deep gorge with a river (a raging torrent after rain) crossing and recrossing the winding road. The steep slopes were covered with *Crasulas*. *C. falcata*, *Adromischus*, *Mesemb*s and *Haworthias* with *Aloe ferox* Mill. and *Encephalartos longifolius* (Jacq.) Lehm. standing out as specimens on a wonderfully varied carpet. The following *Stapeliads* were found under bushes in partial shade: *Stapelia flaviostris* N. E. Br., *Stapelia variegata* L., *Huernia primulina* N. E. Br., *Ceropegia ampliata* E. Meyer, and *C. stapeliaeformis* Harv.

Two *Mesembryanthemums*, *M. albidum* L., and *M. calamiforme* L., were growing in full sun on well-drained slopes. On the north side of the poort is the only place I have ever found *Aloe humilis* var. *echinata* (Willd.) Bak.

Winding our way back to camp for a meal and short rest, we next proceeded to explore the flats on the north side of the mountains, about 2000 feet above sea level. The masses of

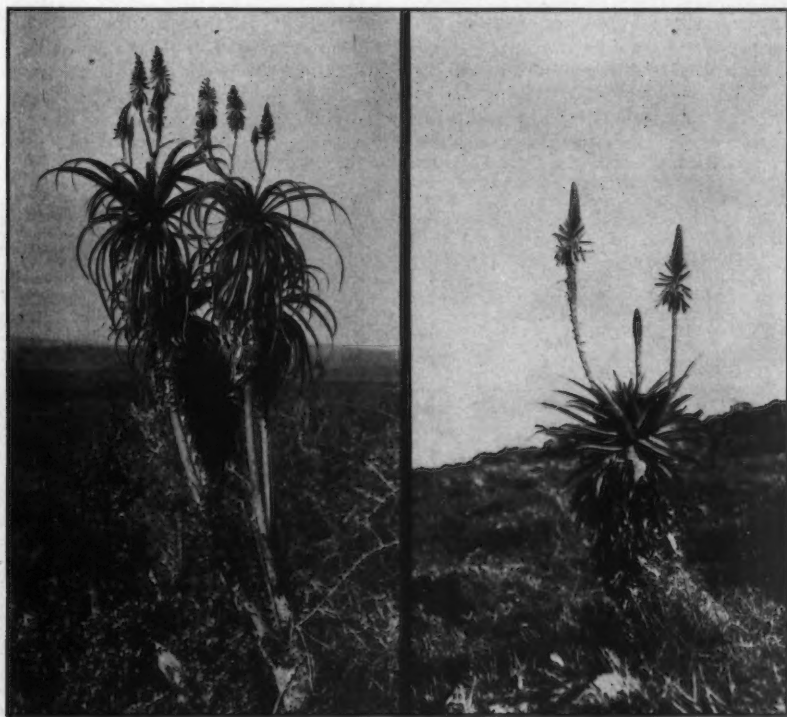


FIG. 63. LEFT: *Aloe pluridens* with *Portulacaria afra* in the foreground. RIGHT: *A. lineata*. Photos by G. W. Reynolds.



FIG. 64. *Gasteria planifolia* is sometimes without leaf markings.

*Euphorbia Ledienii* found on the south side had now changed to *E. coerulescens*, a regular sea of them 3 to 4 feet high, thousands of acres in extent. The soil here is a deep rich loam, but the rainfall is low. *Haworthia arachnoides* (L.) Haw. was found in among the *Euphorbias*, in shade, and here and there, never common, the interesting parasite *Hydnora africana* Thunb., obtaining its livelihood from the roots of the *Euphorbia*.

In the open flats, countless clumps of *Apicra foliolosa* Willd. were seen, each plant with 8 to 12 shoots. It would seem that sheep and goats do not touch these hard, prickly plants, but

strangely enough, the ostrich includes it on his menu and many clumps were eaten off down to soil level. My experience with *A. foliolosa* is, that it will put up with no good cultivation, so give it a hard life, a good porous loam, little water, no fertilizer and definitely do not over-pot.

Although we did not collect it on this trip, *Haworthia viscosa* (L.) Haw. and the variety *indurata* (Haw.) Bak. are found further along on the same road.

Our trip was coming to an end, however, so we returned to camp, loaded up the clumps of *Encephalartos Lehmannii* destined for Pretoria and the following morning we retraced our way back to Port Elizabeth, stopping every few miles to investigate likely spots. Two conspicuous plants standing out in the over-grazed areas should be noted, *Cotyledon teretifolia* Thunb. and *C. orbiculata* L. The former has yellow and the latter rose pink flowers. *Cotyledon ramosissimus* Harv. with solitary crimson flowers, *Crassula perforata* L., *C. tetragona* L., and *C. lycopodioides* Lam., were also found, but in bushes. Dr. Fourcade's check list of the adjoining areas gives 12 species of *Cotyledon* and 52 of *Crassula*.

A non-succulent tree found all over hereabouts, is the "Klapperbos" or "Lantern Tree," *Aitonia capensis* L.f. When in seed it bears lantern-like fruits of a brilliant carmine red, not unlike the fruits of *Physalis Franchetii*, the well-known herbaceous plant of European gardens.

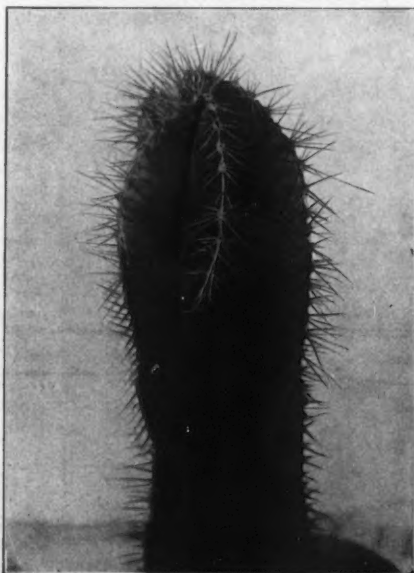


FIG. 65. Juvenile and mature plants of *Lemaireocereus Dumortieri*. See next page.





Last year I brought back from Mexico cuttings of two *Lemaireocerei* and one of the species, *Lemaireocereus Dumortieri*, condescended to bloom in April of 1948. A total of six flowers appeared on successive days, each flower remaining fully open until midday. Britton & Rose in their CACTACEAE state that this species ranges over a considerable territory but is never abundant, being found generally as large isolated individuals on the sides of rocky hills and cliffs. Although this may be true in many instances there are exceptions to the rule, for I've seen this *Lemaireocereus* relatively abundant in many places. In particular, I am referring to the good stand in the awe-inspiring canyon of Rio Moctezuma below Vegita where some of the finest "Golden Ball" cacti are growing. This river canyon serves as boundary for the states of Hidalgo and Queretaro. The plant I'm discussing this month was secured from Guanajuato on the Queretaro-Celaya road.

*Lemaireocereus Dumortieri* is a tall, tree-like cactus with a short woody trunk. The branches are often very numerous and erect, of a pale grey-green color, 6-ribbed, with closely set or generally confluent, gray-felted areoles. The spines are never vicious in appearance, yet variable in length and number, at first pale yellow brown, later darkened to almost black. The radials often occupy the lower half of the areole, or at least are the longest and most prominent. There is usually one central spine or often two and even several in each areole. The tubular, funnellform flowers are rather small for the genus, being 4.5 to 5 cm. long (2 inches or under). There is no pronounced fragrance but on close sniffing one can detect a slight odor of cut watermelon. Flower tube and ovary are of deep green color and bear small dull purplish scales, felted in their axils. The glossy green, recurved outer perianth segments are broadly linear in outline and about 10 in number, up to 13 mm. long and 4 mm. wide, usually tinged purple at the tip and extending about halfway down the middle. The linear to oblong inner perianth segments are greenish white or tinged a faint purple at the tips, and minutely serrate, 13 in number and 10 mm. long, 3 to 5 mm. wide. The numerous stamens are borne in many rows along the inner surface of the throat and measure 5 to 9 mm. long. The filaments are white and the anthers pale cream yellow. The style is white with 6 or 7 pale yellow stigma lobes.

*Lemaireocereus*, as a rule, are easy of culture when grown in warmth and full sunshine. The soil in which they delight consists of a mixture of good garden loam, sand (or other gritty material) and decomposed leafmold. Water generously during the active season but keep on the dry side in the dormant or winter period.

In the past few months Palestine has been in front page news almost daily, but the news articles usually dealt with skirmishes between Jews and Arabs, bombing of buildings and trains, shooting reprisals, etc. Only recently I came across issues of the Palestine Journal of Botany, Jerusalem Series, edited by the Staff of the Botany Department of the Hebrew University and in the November, 1941, number found out

about two new *Carallumas* described therein which will interest Stapeliad collectors. Both are natives of Palestine: *Caralluma Maris Mortui* is found in the northern plain of the Dead Sea basin and it is astonishing that this plant should have been overlooked by the previous collectors visiting the area; the other is *C. europaea* var. *judaica*, easily distinguished from the other varieties of this species described in White & Sloane's THE STAPELIEAE (1937), by a number of characteristics such as color of petals, pubescence, etc. The latter belongs to the *Lalacruma* group to which *C. gracilipes* and *C. priogonium* belong. The two new Palestinian *Carallumas* are credited to M. Zohary.

Back in 1940 I had the honor and pleasure to dedicate the Cactus House in Des Moines, Iowa. Last month I was invited to return and see the remarkable growth the plants had made during this eight-year interval. Was I amazed! Succulents that had been mere cuttings have now reached the roof. Where once there was an unobstructed view of the whole room, now dense growth in the center bed made a division. Slender, night-blooming *Cerei* have climbed to the ceiling and were copiously covered with hairy buds giving a portend of glorious bloom in the next few weeks. An orchid cactus was exhibiting a delicate flower. All the permanent planting in the middle bed has increased by leaps and bounds. On the sides were benches with potted specimens of intriguing succulents. Throughout the room tropical trees and shrubs were scattered in interspersed plantings; in fact some of the cacti and spurge were almost hidden by this dense foliage. The progressive Des Moines Cactus & Succulent Society, organized ten years ago, is responsible for inducing the city fathers to reconvert an old commercial growing house into a delightful display room for xerophytes and exotics. Now this same society is pressing the Park Board and new City Council to repair the third and last greenhouse to good use. We certainly hope the city fathers will accede to their wish for then the city can be included among municipalities with worthwhile plant attractions.

I arrived at the greenhouse about ten o'clock in the morning for an informal chat with the members, guests and horticulturists of the locality. Around noon a delicious luncheon was served in the greenhouse and guests, representing members of the new City Council, Park Board, Better Homes & Gardens, etc., were introduced, after which I was asked to address the assembly. Later in the afternoon I showed Kodachromes of my 1947 trip into Mexico and followed it with Four Seasons in the Missouri Botanical Garden. The Des Moines Cactus Society must be complimented for the excellent program it arranged for this occasion of my second visit to the Iowa metropolis and my humble thanks are extended to each and everyone who made my stay such a memorable one.

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